

SHOW-ME YARDS AND NEIGHBORHOODS ADDRESSES NON-POINT SOURCE POLLUTION

As we progress in successfully addressing point-source water pollution and nutrient loading, it becomes increasingly more apparent that pollutants and nutrients from non-point sources must also be reduced significantly in order to bring about the improvements and protection of our water quality for which we are working. As a bit of reference, non-point sources may include run-off from areas such as construction sites, parking lots, and other impervious surfaces, agricultural sources, and residential or business lawns. Point sources are those larger sources easy to “point” to, such as municipal treatment plants.

Show-Me Yards and Neighborhoods (SMY&N) is a program to address non-point source pollution – specifically nutrient run-off from lawns – commercial, institutional, or residential.

SMY&N is a part of Choose Environmental Excellence and dovetails very nicely with the basic components of the Choose Environmental Excellence program:

- Acknowledge we all make an impact on the environment
- Encourage education to raise awareness and give solutions
- Ask that people consider the environment in their everyday choices and *Choose Environmental Excellence*

SMY&N is a program developed to address residential or business lawns. Education and outreach activities are designed to increase awareness of the significant role lawns play in the total amounts of nutrients and pollutants that reach our rivers, streams, and lakes. In addition to creating awareness, solutions are provided, as well as recognition incentives for homeowners, lawn care providers, and neighborhoods that put the practices

to work. Assistance with best management practices is available for builders, developers, and landowners. Stream monitoring activities will provide information about the effect of the activities.

The large number of partners participating in SMY&N is indicative of the broad base of support and interest in protecting our water quality.

Homeowners’ workshops are available. Homeowners are encouraged to follow best management practices and can choose from a checklist to earn points or “inches.” Reaching 36 inches earns an attractive “Show Me Yard” sign.

Lawn care professionals’ workshops are tailored to the business’ needs. Benefits for both the businesses and their customers are emphasized: sharing the relationship-building information; enabling the businesses to position themselves as responsible, caring professionals; utilizing the information to set themselves apart from other businesses.

SMY&N displays and homeowner seminars have appeared in the Home Show and at the Lawn and Garden Show since 2001. Several Lawn Care Field Days have been held.

Homeowners, contractors, and other professionals associated with lawn care are encouraged to participate in Show-Me Yards & Neighborhoods.

For more information or to access the reference materials mentioned in this publication, please visit:

www.muextension.missouri.edu/explore
www.springfieldmogov.org/showmeyards

Show-Me Yards & Neighborhoods is a project of Springfield/Greene County *Choose Environmental Excellence*

- Funding provided by:**
- Missouri Dept. of Natural Resources
 - City of Springfield/Public Works
 - Watershed Committee of the Ozarks
 - James River Basin Partnership

- Technical assistance provided by:**
- Natural Resources Conservation Service
 - University of Missouri Outreach & Extension
 - Master Gardeners of Southwest Missouri
 - Ozarks Technical Community College Turf & Landscape Management Program

- Supporting Partners:**
- Greene County Resource Management
 - City Utilities of Springfield
 - Southwest Missouri RC&D
 - Greene County Soil & Water Conservation Service
 - League of Women Voters



Missouri Department of Natural Resources

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SHOW-ME YARDS & NEIGHBORHOODS



TAKE HOME TIPS

Storm Water Runoff

- Urban storm water runoff is a major component of non-point source water pollution. Non-point source pollution originates in such common areas as urban lawns, parking lots, driveways, and construction sites. Until recently, non-point source pollution was largely unregulated. Point-source pollution, which includes sources such as wastewater treatment plants, industrial sites, etc., has been regulated for some time. Even with the regulation and compliance of the point-sources, these efforts are not enough; hence, the attention is now being drawn to the non-point sources.
- The “big deal” about nutrient runoff is that excess fertilizer runs off the urban lawn and finds its way into the streams, lakes, creeks, etc., fertilizing the algae in the waterways and causing excess algae growth which leads to clogging the waterways and reducing the available oxygen for fish and other aquatic life. A lawn can only use a limited amount of fertilizer and any it cannot use runs off with the next rain event or with excess irrigation.
- Common practices such as continuous impervious surfaces (such as directing water from the roof, down the drainpipe, onto the drive, into the street, down the storm drain) do not allow any of the water to be filtered nor to soak into the soil. Both of these desirable practices can be achieved by allowing the water to pass through a grassy or mulched area. The idea is to keep the water from running off, and if it must run off, to filter contaminants and nutrients from it.
- Eroding soil from construction sites or other areas of bare soil are another source of pollution. Soils contain nutrients and loose particles which can cloud bodies of water and add to the nutrient overloading. Best Management Practices (BMP) assist builders and developers in preventing soil erosion during construction. Regulations exist to require soil erosion prevention during construction.

- Likewise, homeowners are encouraged to utilize buffer areas and grassy areas to slow down and filter storm water leaving their property.

For more information:
Watershed Committee of the Ozarks (417) 866-1127
www.watershedcommittee.org
Show-Me Yards & Neighborhoods (417) 864-2006
City of Springfield:
www.springfieldmogov.org/community/cee_showme.html
Missouri Department of Natural Resources (417) 891-4300
www.dnr.state.mo.us

Importance of Trees

- Trees are an important part of any home landscape. They offer needed shade and beauty. Know the tree’s growing requirements and habits before planting in a landscape – Right tree, right place!
- Planting techniques are important for the health of the tree. “A wider hole is much better than a deeper hole.”
- Don’t overlook the value of mulch around the tree base. Mulch provides weed control, cooling of the soil, moisture retention, and protection from weed-eater and lawn mower injuries. Mulch should not be placed against the tree bark. Think donut, not volcano.
- Trees are not carrots – they don’t have a central “tap root.” Rather, they have a network of shallow roots that surround the tree and extend to the drip line – the area below the end of the farthest branch. All of the roots in this area should be protected from disturbance or injury.
- **For more information:**
Missouri Dept. of Conservation, Cindy Garner, (417) 895-6880 – Ext. 1037
Preventing Construction Damage to Trees (MU G6886)
How to Mulch a Tree (SMY&N)
Working with Arborists (SMY&N)

Rx Your Prescription
For A
Healthy Yard!

Show-Me Yards & Neighborhoods is an educational program designed to raise awareness about the role urban storm water runoff plays in the water quality of nearby streams, creeks, rivers, and lakes. Through voluntary educational activities, SMY&N offers environmentally responsible alternatives to traditional lawn care and construction practices that contribute to the runoff of contaminants and excess nutrients. SMY&N also recognizes and commends individuals and professionals who put the SMY&N techniques into practice – homeowners can earn an attractive yard sign and professionals can become certified.

For more information:

Show-Me Yards & Neighborhoods (417) 864-2006 www.springfieldmogov.org/showmeyards



Native Plants

Native plants are plant species that have grown in this area for generations. They have become adapted to our crazy growing climate and not-so-perfect soils. To say the least, they are a hardy lot. This survivability makes the use of native plants in your landscape beneficial in several ways:

- Once established, Natives need less water. Native plants have a natural resistance to pests and diseases which means fewer pesticides and chemicals are needed.
- Native plants, being better adapted to our soil conditions, generally need fewer applications of fertilizer.
- Native plants furnish needed food and habitat for many beneficial insects and native wildlife, such as hummingbirds and other songbirds.
- Lest you think Natives are not attractive, remember, in Southwest Missouri, we are in a unique position to have both prairie plants and woodland plants, thus giving us a great diversity in Natives.
- Two words of caution: Be sure the place where you buy your Native plants is reputable and has grown the plants locally to get the benefits of local adaptation, and remember it is against the law to take any plant from public lands.
- **For more information:**
*The Missouri Department of Conservation has an excellent program called **Grow Native!** that explains where to purchase the plants, gives examples of specific garden arrangements such as butterfly gardens, hummingbird gardens, etc.*
www.grownative.org

The Importance of Soil and Soil Testing

- Soil testing provides an estimate of the plant-available nutrients in the soil and is an essential tool for a sound fertilization program. Periodic soil testing will help correct nutrient deficiencies, avoid excess fertilizer applications, and maintain a healthy lawn.
- A routine soil fertility test will give you the pH, neutralizable acidity, phosphorus, calcium, magnesium, organic matter, and cation exchange capacity.
- The soil test results are only as good as the representative sample. Know how to properly take a soil sample by following the sampling tips found in “Soil Testing for Lawns.”
- Soil test results are mailed to the customer in a self-explanatory form that describes exactly what additional nutrients or amendments need to be added.
- Local soil samples for testing may be submitted to the local MU Extension Center.
- **For more information:**
Missouri Outreach and Extension (417) 862-9284
Soil Testing for Lawns (SMY&N)

Fertilizers/Pesticides

- For healthy lawns and gardens, plant food must be applied in the correct form, at the right time, and correct amount. Excessive amounts are not healthy for plant growth or the environment.
- Integrated Pest Management (IPM) advocates a balanced combination of natural, chemical, and organic controls.
- Pesticides are most commonly used to control insects, diseases, and weeds. When applying pesticides, always use the least toxic material to man and the environment to get the job done.
- Always apply pesticides in accordance with label instructions. It is the law!
- Organic, non-chemical alternatives also exist.
- **For more information:**
Missouri University Outreach and Extension (417) 862-9284
Show-Me Yards & Neighborhoods (417) 864-2006
Lawn Maintenance Calendar (MU G6705) (SMY&N)
Pesticides and the Environment (MU G7520)
Lawn Establishment and Renovation (Cool Season Grasses) (MU G6700)

Safe Handling of Chemicals

- If chemicals are necessary, handle them responsibly.
- Understand the problem you are trying to remedy. Avoid a “one size fits all” approach. Target the insect or disease specifically. Learn the life cycle to find the time when the pest is the most vulnerable – that will be the time the least amount of chemical is the most effective.
- Choose the correct pesticide – the one with the lowest toxicity that will safely and effectively control the pest. Read the label carefully. Obey all cautions. Do not use the chemical for uses or in mixtures other than specified on the label.
- Transport the pesticide in the trunk of the car or in the back of a truck to avoid potential contamination problems should the container break.
- Before applying the chemical, examine the area to be treated to determine if there are plants, animals, or pets that could be harmed by the pesticide. Avoid spraying on windy days.
- Wear protective gear indicated on the label. Don’t eat, drink, or smoke when using pesticides. Avoid wearing soft contact lenses when using pesticides.
- Buy only the amount you will use. Avoid having large supplies of pesticides on hand. Store pesticides in their original containers with the original labels visible and intact. Mark the date on the containers and use the oldest first.
- Store in a dry area to prevent corrosion of metal containers and caking of bagged dry materials. Check for temperature requirements.

- Don’t allow chemicals to become mixed with other chemicals. Dangerous and deadly interactions can result.
- It is best to set pesticide containers in plastic tubs or bins to catch any spills and protect from corroded containers.
- Dispose of chemicals properly. Do not flush them down the toilet or down the sink. Do not pour them out on the ground or down a storm drain. City storm drains flow to area creeks and streams, not wastewater treatment plants.
- Citizens of Springfield and Greene County may bring their chemicals to the City’s Household Chemical Collection Center. Citizens of surrounding counties may call the City’s Recycling Hotline (864-1904) for information about collections in their county.
- **For more information:**
City’s Household Chemical Collection Center and Recycling Hotline (417) 864-1904
City of Springfield:
www.springfieldmogov.org/recycling
Pesticides and the Environment (MU G7520)

Compost/Mulch

- Compost, in general terms, is best suited to be mixed with the soil as a soil amendment. It does not have a significant nutritional value, but it does give the soil the ability to transfer nutrients to the plants easier. It improves the texture of the soil, making clay soils drain easier and sandy soils hold moisture better. You’ve already heard how critical healthy soil is to the success in growing.
- Compost can be mixed with topsoil in new lawns and planting areas, worked into existing turf through aeration, or added as a top dressing.
- Compost is available, bagged, at most garden centers. The City has bulk compost, made from grass clippings and leaves, available at the City’s Yardwaste Recycling Center.
- **For more information about compost and composting:**
City’s Yardwaste Recycling Center and Recycling Hotline (417) 864-1904
Mulches (MU G6960)
Making and Using Compost (MU G6956)
- There are many mulching materials available. SMY&N recommends organic mulch materials because they have the added benefit of eventually decomposing and adding valuable organic matter to the soil.
- For our purposes, mulch is used above the ground as an insulating medium. Mulch helps the soil retain moisture, keep out weeds, and stabilize soil temperature. Generally, it is applied 3 – 4 inches deep. It is especially good as a protective ring around trees to avoid damage from weed-eaters and lawn mowers. (A hand-out is available to show people how to properly mulch a tree – the mulch should NOT be piled up against the trunk of the tree – donut, not volcano!)
- Mulch is widely available, bagged and in bulk from garden centers. The City has two types of shredded

wood mulch available. Screened mulch (\$10.00 cu. yd.) and unscreened mulch (currently free) is available at the Yardwaste Recycling Center. A \$1.00 per cu. yd. (\$5.00 minimum) loading fee is charged.

- **For more information about mulch and uses of mulch:**
City’s Yardwaste Recycling Center and Recycling Hotline (417) 864-1904
Mulches (MU G6960)
Making and Using Compost (MU G6956)

Watering/Mowing

- Lawn water amounts will depend upon the look you want to maintain. Cool season grasses may go dormant during the summer with little additional water. To maintain an actively growing lawn, additional water may be needed. During extreme drought conditions, supplemental water may be needed to prevent lawn damage.
- To keep a lawn active, most lawns need at least an inch of water weekly.
- Water conservation is increasingly important as water supplies become more and more limited. Some conservation measures include:
 - Measure the amounts of water applied. Collection cans throughout the lawn will tell you how much water falls in a given time.
 - Watch watering patterns. Avoid runoff. Avoid watering driveways, sidewalks, etc. Hand water areas that don’t “fit” sprinkler patterns.
 - Encourage deep watering to promote deep root development.
 - Know the best time to water most effectively. Avoid watering in the heat of the day or at night. Use a watering system that doesn’t waste water. Check for leaks regularly.

- Consider alternatives to turf that require less water, such as Native plants.
- Mowing height is important for the health and vigor of the grass.
- It is suggested to not remove more than 1/3 of the grass height at one time for cool season grasses. Taller mowing heights encourage better root development.
- Following this practice, clippings will naturally decompose and bagging will not be necessary.
- **For more information:**
Show-Me Yards & Neighborhoods (417) 864-2006
Home Lawn Watering Guide (MU G6720)
Water Efficient Gardening and Landscaping (MU G6912)
Lawn Maintenance Calendar (MU G6705) (SMY&N)
Don’t Bag It! (MU G6959)
See also Native Plant section.